2014 ROUTINE
BRIDGE INSPECTION REPORT

BRIDGE # 62J07
CSAH 96 over PED PATH

DISTRICT: Metro **COUNTY: Ramsey** **CITY/TOWNSHIP: Shoreview**

Date(s) of Inspection: 10/16/2014
Equipment Used:

Owner: City or Municipal Highway Agency

Inspected By: Ascheman, Cory

Report Written By: Cory Ascheman
Report Reviewed By: Jeffrey A Johnson
Final Report Date: 02/11/2015

MnDOT Bridge Office
3485 Hadley Avenue North
Oakdale, MN 55128

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MnDOT Structure Inventory Report

Bridge ID: 62J07 CSAH 96 **over** PED PATH **Date:** 02/11/2015

GENERAL

Agency Br. No.
District Metro
Maint. Area **Crew**
County 062 - Ramsey
City Shoreview
Township
Desc. Loc. 0.2 MI E OF VICTORIA ST
Sect., Twp., Range 14 - 030N - 23W
Latitude **Deg** 45 **Min** 4 **Sec** 42
Longitude **Deg** 93 **Min** 7 **Sec** 54
Custodian 04 - City or Municipal Highway Agency
Owner 04 - City or Municipal Highway Agency
BMU Agreement
Year Built 1997
MN Year Reconstructed
FHWA Year Reconstructed
MN Temporary Status
Bridge Plan Location 3 - COUNTY
Date Opened to Traffic
On-Off System 0 - OFF
Legislative District 53A

STRUCTURE

Service On 1 - Highway
Service Under 3 - Pedestrian - bicycle
Main Span Type
5 - Prestress or Precast 13 - Box Culvert
Main Span Detail
Appr. Span Type
Appr. Span Detail
Skew 15 R
Culvert Type PCST 1210
Barrel Length 137 ft.
Cantilever ID

NUMBER OF SPANS

MAIN: 1 **APPR:** 0 **TOTAL:** 1
Main Span Length 12.4 ft.
Structure Length 13.7 ft.
Deck Width (Out-to-Out) 0.0 ft.
Deck Material N - Not Applicable
Wear Surf Type 6 - Bituminous
Wear Surf Install Year
Wear Course/Fill Depth 5.20 ft.
Deck Membrane 0 - None
Deck Rebars N - Not Applicable (no deck)
Deck Rebars Install Year
Structure Area (Out-to-Out) 0 sq. ft.
Roadway Area (Curb-to-Curb) sq. ft.
Sidewalk Width **Lt** 0.00 ft. **Rt** 0.00 ft.
Curb Height **Lt** 0.00 ft. **Rt** 0.00 ft.
Rail Type **Lt** NN **Rt** NN

ROADWAY

Bridge Match ID (TIS) 0
Roadway O/U Key Route On Structure
Route Sys 04 - CSAH **Number** 96
Roadway Name or Description
CSAH 96
Level of Service 1 - MAINLINE
Roadway Type 2 - 2-way traffic
Control Section (TH Only)
Reference Point 002+00.778
Detour Length 1.0 mi
Lanes **On** 4 **Under** 0
ADT 21115 **Year** 2008
HCADT 0 **ADTT** 0 **%**
Functional Class 16 - Urban - Minor Arterial

RDWY DIMENSIONS

If Divided	NB-EB		SB-WB	
Roadway Width	35.40	ft.	35.40	ft.
Vertical Clearance		ft.		ft.
Max. Vert. Clear.		ft.		ft.
Horizontal Clear.		ft.		ft.
Lateral Clearance		ft.		ft.

Appr. Surface Width 90.0 ft.
Bridge Roadway Width 0.0 ft.
Median Width On Bridge 20.00 ft.

MISC. BRIDGE DATA

Structure Flared 0 - No flare
Parallel Structure N - No parallel structure
Field Conn. ID
Abutment Foundation N - N/A
(Material/Type) N - N/A
Pier Foundation N - N/A
(Material/Type) N - N/A
Historic Status 5 - Not eligible

PAINT

Year Painted
Unsound Paint %
Painted Area sq. ft.
Primer Type
Finish Type

BRIDGE SIGNS

Posted Load 0 - Not Required
Traffic 0 - Not Required
Horizontal 0 - Not Required
Vertical N - Not Applicable

INSPECTION

Userkey 193
Unofficial Structurally Deficient N
Unofficial Functionally Obsolete N
Unofficial Sufficiency Rating 81.6
Routine Inspection Date 10/16/2014
Routine Inspection Frequency 24
Inspector Name SEH
Status A - Open

NBI CONDITION RATINGS

Deck N - Not Applicable
Unsound Deck %
Superstructure N - Not Applicable
Substructure N - Not Applicable
Channel N - Not Applicable
Culvert 7 - Shrinkage cracks, light scali

NBI APPRAISAL RATINGS

Structure Evaluation 7
Deck Geometry N
Underclearances N
Water Adequacy N - Not Applicable
Approach Alignment 8 - Equal to present desirabl

SAFETY FEATURES

Bridge Railing N - NOT REQUIRED
GR Transition 0 - SUBSTANDARD
Appr. Guardrail 0 - SUBSTANDARD
GR Termini N - NOT REQUIRED

IN DEPTH INSP.

	Y/N	Freq	Date
Frac. Critical			
Underwater			
Pinned Asbly.			
Spec. Feat.			

WATERWAY

Drainage Area (sq. mi.)
Waterway Opening sq. ft.
Navigation Control N - Not applicable, no waterw
Pier Protection
Nav. Clr. (ft.) **Vert.** ft. **Horiz.** ft.
Nav. Vert. Lift Bridge Clear. (ft.)
MN Scour Code A - NON WATER **Year**

CAPACITY RATINGS

Design Load 9 - HS 25 (OR GREATER)
Operating Rating 5 - NRAP 36.0
Inventory Rating 5 - NRAP 24.0
Posting VEH: **SEMI:** **DBL:**
Rating Date 2/15/2001

MnDOT Permit Codes

A: N - N/A
B: N - N/A
C: N - N/A

MnDOT Structure Inventory Report

Additional Roadways

Bridge ID: 62J07 CSAH 96 over PED PATH **Date:** 02/11/2015

MnDOT BRIDGE INSPECTION REPORT

02/11/2015

Inspector: SEH

BRIDGE 62J07 CSAH 96 OVER PED PATH — ROUTINE INSP. DATE: 10/16/2014

County: Ramsey
City: Shoreview
Township:
Section: 14 Township: 030N Range: 23W
Span Type: 1 - Concrete 19 - Culvert (includes frame culverts)
List:
NBI Deck: N Super: N Sub: N Chan: N

Location: 0.2 MI E OF VICTORIA ST
Route: 04 - CSAH 96 Ref. Pt.: 002+00.778
Control Section:
Maint. Area:
Local Agency Bridge Nbr.:
Culv: 7
Open, Posted, Closed: A - Open
MN Scour Code: A - NON WATERWAY

Length: 13.7 ft.
Deck Width: 0.0 ft.
Rdwy. Area/ Pct. Unsnd: sq. ft. / %
Paint Area/ Pct. Unsnd: sq. ft. / %
Culvert: PCST 1210
Postings:

Appraisal Ratings - Approach: 8 Waterway: N
Required Bridge Signs - Load Posting: 0 - Not Required Traffic: 0 - Not Required
Horizntal: 0 - Not Required Vertical: N - Not Applicable

Unofficial Structurally Deficient N
Unofficial Functionally Obsolete N
Unofficial Sufficiency Rating 81.6

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
241	Reinforced Concrete Culvert	1	Routine	10/16/2014	128 LF	128	0	0	0	N/A
			Routine	10/05/2012	128 LF	128	0	0	0	N/A

☐ Requires Monitoring ☐ Monitored

Notes: [2008] Interior culvert painted, joints caulked. Paint cracking at several joints. Asphalt path cracked at two joints.
[2010] Asphalt cracked across at 6 joints.
[2014] The paint is cracked at all the joints. The asphalt is cracked between 6 joints. The paint is flaking off 7' of the SW culvert wall due to sun exposure. The culvert sections are sound.

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
334	Metal Bridge Railing (Coated or Painted)	1	Routine	10/16/2014	95 LF	0	95	0	0	0
			Routine	10/05/2012	95 LF	95	0	0	0	0

☐ Requires Monitoring ☐ Monitored

Notes: [2012] Minor paint rusting along south rail.
[2014] Minor paint flaking and light rust spots on the N and S railings.

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
388	Culvert Headwall, Wingwall or Other End Treatment	1	Routine	10/16/2014	4 EA	0	4	0	0	N/A
			Routine	10/05/2012	4 EA	4	0	0	0	N/A

☐ Requires Monitoring ☐ Monitored

Notes: [2008] Paint sealant peeling in several areas on S end. Both corners on S end have 1½ foot cracks diagonal from culvert corners. N end has 1½ foot crack in NE corner and 1½ foot crack in top curved section. At the top of S headwall, the caulked joints are failing leaving gaps down wall joint.
[2014] Approx. 50% of the paint on the S face has faded away. The S face has multiple hairline cracks around the arch (a 7' crack at the west corner, a couple of 3' cracks along the west half, a couple of 1.5' cracks along the east half and a 5' crack at the east corner). The N face has a 3.5' (0.04") crack at the east corner and a 2' (0.02") crack west of CL. The caulked joints in the NE, SE and SW have areas where the caulk has separated.

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
964	Critical Finding Smart Flag	2	Routine	10/16/2014	1 EA	1	0	N/A	N/A	N/A
			Routine	10/05/2012	1 EA	1	0	N/A	N/A	N/A

☐Requires Monitoring ☐Monitored

Notes: DO NOT DELETE THIS CRITICAL FINDING SMART FLAG.

984	Deck & Approach Drainage	2	Routine	10/16/2014	1 EA	1	0	0	N/A	N/A
			Routine	10/05/2012	1 EA	1	0	0	N/A	N/A

☐Requires Monitoring ☐Monitored

Notes: [2008] 10 foot long metal grate drain before N entrance.
[2014] The drainage system is in good condition and functioning as intended.

987	Roadway over Culvert	2	Routine	10/16/2014	1 EA	1	0	0	N/A	N/A
			Routine	10/05/2012	1 EA	1	0	0	N/A	N/A

☐Requires Monitoring ☐Monitored

Notes: [2014] The WB lanes have minor cracking but no settlement. The south sidewalk has a 9' (0.25") crack through 2 panels used by pedestrians. The north sidewalk above the NE corner of the culvert has a panel that's tipped 1.5" but it is not in the traveled portion of the walk.

988	Miscellaneous Items	2	Routine	10/16/2014	1 EA	1	0	0	N/A	N/A
			Routine	10/05/2012	1 EA	1	0	0	N/A	N/A

☐Requires Monitoring ☐Monitored

Notes: [2008] Lighting and conduit installed inside culvert.
[2012] Broken light cover 3rd light in from the north end, west side.
[2014] The rigid conduit install along the east and west sides of the culvert are secure. The light cover is still broken.

General Notes: [2008] Insp by CS and JJ.
[2010] Insp by CS and JJ.
[2012] Insp by CS and JJ.
[2014] Insp by Cory Ascheman (SEH, Inc.)

58. Deck NBI:

36A. Brdg Railings NBI:

36B. Transitions NBI:

36C. Appr Guardrail NBI:

36D. Appr Guardrail Terminal NBI:

59. Superstructure NBI:

60. Substructure NBI:

61. Channel NBI:

62. Culvert NBI: [2014] The culvert has minor weathering and cracking.

71. Waterway Adeq NBI:

72. Appr Roadway Alignment NBI: [2014] No speed reduction required.

Inventory Notes:

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5

Cory Ascheman
Inspector's Signature

Jeffrey A Johnson
Reviewer's Signature

Pictures

Photo 1 - Elevation View
Looking SW

Photo 2 - Elevation View
Looking North

Pictures

Photo 3 - Alignment View
Looking West

Photo 4 - Culvert
Looking South

Pictures

Photo 5 - Crack in east corner of north headwall
Looking South

Photo 6 - Crack on west portion of north headwall
Looking South

Pictures

Photo 7 - Hairline crack in west corner of south headwall
Looking North

Photo 8 - Crack in south sidewalk
Looking West

Pictures

Photo 9 - Tipped panel in north sidewalk
Looking East

1. IMG_1288.JPG

2. IMG_1297.JPG

3. IMG_1310.JPG

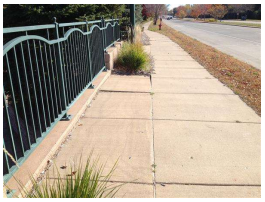
4. IMG_1289.JPG

5. IMG_1278.JPG

6. IMG_1282.JPG

7. IMG_1300.JPG

8. IMG_1302.JPG



9. IMG_1306.JPG

Culvert

Bridge No.: 62J07

Culvert

Item	*Description*	*Condition*	*Comments*
Culvert Overall:	**NBI Item 62**	7	[2014] The culvert has minor weathering and cracking.

MnDOT Scour Code: A - NON WATERWAY

Waterway Inspection

Item No.	Yes, No, NA or Not Visible	Description
1.		Is there a significant build-up of debris?
2.		Is there erosion of the embankment around the headwalls?
3.		Is there any indication of cracking or settlement of the culvert barrel or headwalls?
4.		Is there shifting of the channel alignment or erosion of the stream banks? Also are there cracks in the soil of the banks parallel to the stream?
5.		Do scour measurements indicate that the streambed is below the bottom of the cutoff walls at the ends of the culvert?
6.		Is there evidence of distress in the roadway or approaches such as cracks in the pavement and sags in the guardrail or roadway? Also, is there cracking, erosion, or failure of the side slopes at or adjacent to the culvert?
7.		Is there an indication of "piping" of water along the outside of the culvert such as cavities adjacent to the barrel?
8.		Is the culvert without a bottom and scour measurements indicate that the streambed is below the plan streambed elevations?
9.		Has the riprap or other scour protection been damaged or otherwise made ineffective?
10.		If the culvert was designed to be buried (fill inside the culvert), is the material still in the barrel?

Notes:

- Streambed sounding data is to be documented.

- Soundings of the streambed should be done at each end of the culvert. If Items #5 or #8 are "Yes", then a streambed profile of the scoured area should be done.

- If "Yes" is the answer to any items on the checklist, notify the Program Administrator for further instructions.

Comments:

Completed On _____ By _____

Channel

Bridge No.: 62J07

Channel

Item	*Description*	*Condition*	*Comments*
Channel Overall:	**NBI Item 61**	N	

Bank Protection/Revetment

Item	*Description*	*Condition*	*Comments*
Upstream Bank Protection:			
Downstream Bank Protection:			
Bridge Revetment:			

MnDOT Scour Code: A - NON WATERWAY

Underwater Inspection

Underwater Inspection By Divers:

No. of Piers To Be Inspected:

Waterway Characteristics

Reference Point:		**High Water Elev.:**		**Current Water Elev.:**	
Pile Tip Elev.:		**Low Water Elev.:**		**Current Streambed Elev.:**	
		Scour Hole Elev.:		**Current Scour Hole Elev.:**	

Waterway Inspection: (Not applicable for culverts)

Item No.	Yes, No, NA or Not Visible	Description
1.		Is there a significant build-up of debris?
2.		Is there a change in the horizontal alignment of the handrail or structure members such as beams?
3.		Is there any indication of vertical movement of the superstructure?
4.		Is there shifting of the channel alignment or erosion of the stream banks? Also are there cracks in the soil of the banks parallel to the stream?
5.		Is there a significant change in the alignment of hte exterior bearings?
6.		Are there cracks or other signs of distress in the approach pavement?
7.		Is the water currently on the superstructure?
8.		Are the slopes unstable?
9.		Do scour measurements indicate: (place a check by all that apply.)

- ☐ A. that the streamed is two or more feet below the bottom of pier footings which are supported on piles?
- ☐ B. scour below the bottom of spread footings?
- ☐ C. scour below the bottom of high abutment footings?
- ☐ D. that the streambed has scoured five feet or more below the original streambed elevation at pier bents?

10. _____ Have the scour countermeasures been damaged or otherwise made ineffective?

Notes:

- Streambed sounding data is to be documented.

- Per MnDOT Bridge Inspection Manual Section 2.2.5, at bridges that require x-sections, take channel x-sections, along the upstream and/or downstream face of the bridge.

- If "Yes" is the answer to any items on the checklist, notify the Program Administrator for further instructions.

Comments:

Completed On _____ By _____

Scour POA

Bridge No.: 62J07

Scour POA

1. Is POA on File? _____
2. Date of most recent POA: _____
3. Here is a link to MnDOT's Bridge Scour website for other resources:
   - *http://www.dot.state.mn.us/bridge/hydraulics/scour.html*
   - The Scour POA should be kept in the bridge file and/or uploaded to SIMS using the "Inspection Files" tab.

Implementation

Scour POAs are required to be implemented by FHWA.

1. Is this POA being implemented? _____

Channel Section

Upstream

Custom Label	Location	Elevation

Downstream

Custom Label	Location	Elevation

Distance Measured From:

Elev. of Ref. Pt:

Depth to Water Surface:

WS Elev:

Vertical Datum:

Comments:

Distance Measured From:

Elev. of Ref. Pt:

Depth to Water Surface:

WS Elev:

Vertical Datum:

Maintenance

Element	Source Code	Work Code	Description	P/R	Priority	Work Order #	Year Due	Last Viewed	Entered	Start Date	Completed

BRIDGE STRUCTURAL ASSESSMENT REPORT

PURPOSE:

This report is a structural assessment of the structure and its ability to carry loads based on conditions identified in the attached bridge inspection report. The assessment is only a cursory review intended to provide guidance as to the relative hazards for structural conditions and deficiencies identified. This report is mandatory for all fracture critical bridges and is completed by the MnDOT Bridge Office upon receipt of the 7 Day FC Report; however, it is an OPTIONAL tool for agencies to utilize at their discretion for all other inspection types.

BRIDGE NO.: 62J07

BRIDGE OWNER: City or Municipal Highway Agency

DATE INSPECTED: 10/16/2014

STRUCTURE TYPE: Concrete Culvert (includes frame culverts)

FACILITY CARRIED: CSAH 96

FEATURES INTERSECTED: PED PATH

TYPE OF INSPECTION: ☑ ROUTINE
☐ FRACTURE CRITICAL
☐ PINNED ASSEMBLY:
☐ SPECIAL:
☐ DAMAGE:
☐ OTHER:

Check all that apply:

Redundancy: ☐ Load Path ☐ Structural ☐ Internal

Connection Type: ☐ Riveted ☐ Bolted ☐ Welded ☐ Other:

1. Was a critical finding identified during this inspection or upon structural review? ☐ Yes ☐ No

   a) If selected "**Yes**" above, state briefly the finding(s):

2. If a critical finding was identified, what is the current status? ☐ Pending ☐ Resolved ☐ N/A

   a) Briefly state actions taken:

3. Does the condition of any bridge component indicate impaired function? Examples of bridge components with impaired function include elements that are: frozen or immoveable, out-of-plumb or misaligned, distorted or structurally deformed, excessively deteriorated, cracked, broken, eroded or scoured. ☐ Yes ☐ No

a) If selected "**Yes**" above, state briefly the component(s) and condition(s):

4. Does the overall condition of the bridge, or any of its components mentioned in Question 3, suggest the need for detailed structural analysis and/or a revised load rating? ☐ Yes ☐ No

   a) If selected "**Yes**", state the reason for this recommendation and indicate a proposed timeframe in accordance with State of Minnesota Rule 8810.9500 (Subpart 2):

5. Based on the structural assessment of these findings, recommendations include:

   ☐ Repair/Maintenance ☐ Monitoring Plan
   ☐ Other ☐ Increased Inspection Frequency

   Explain recommended actions:

6. Other comments:

Bridge Office Reviewer